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THE PLANT DISEASE REPORTER

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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CHLOROTIC DWARF OF EASTERN WHITE PINE

Roger U. Swingle

Chlorotic dwarf of eastern white pine (Pinus strobus L.) is a chronic disease that has been observed since 1936 in plantations throughout Ohio and more recently in parts of Indiana and West Virginia. Reports and specimens received indicate that the disease occurs also in parts of Kentucky, Virginia, Delaware, Pennsylvania, Michigan, New York, and the New England States. The disease is similar in some respects to a leaf blight of white pine reported from New England by Spaulding[1] in 1909 and to a blight of white pine reported by Deuber[2] in 1931. Spaulding and Deuber concluded that the trouble in New England was probably due to unfavorable growing conditions.

Chlorotic dwarf is common in 2- to 15-year-old Ohio plantations and is probably the most important disease of white pine in this State. It occurs in mixed and pure stands but white pine is the only species affected. In one 8-year-old plantation in central Ohio, 20% of the trees were affected in 1943. Incidence of disease in others has varied from a trace to a prevalence resulting in the loss of a large portion of 2 approximately 5-year-old plantations in northern Ohio. Affected trees die, usually after a period of decline of from 3 to 5 or more years.

Diseased trees, individually or in small groups, are usually widely distributed throughout affected plantations. These small groups are frequently composed of trees in different stages of decline, suggesting spread of an infectious disease. Individual diseased trees surrounded by healthy ones, however, commonly occur at some distance from other affected individuals. In one plantation 2 trees were occasionally found planted together and in 2 instances one tree was diseased and the other healthy.

Chlorotic dwarf of white pine is characterized by stunted roots and top and by greenish-yellow to yellow foliage. In early stages of decline, needles formed the preceeding year yellow and fall prematurely, often by mid-summer, and produce symptoms of sparse foliage. The current year's needles are light green to greenish-yellow in color and may be slightly reduced in length. They frequently become affected by tipburn during hot, dry periods of mid-summer. Current growth of the central leader and lateral branches may be reduced slightly from that made the preceeding year and from current growth of healthy trees nearby. These symptoms are very similar to those produced by drought. However, whereas drought-affected trees usually revert to normal in favorable growing years, trees affected by chlorotic dwarf continue each year to show an intensification of dwarf symptoms. Dwarfing of the needles, the central leader, and the lateral branches becomes pronounced. Needles are greenish-yellow to yellow, and 1/4 to 3/4 normal size. Premature loss of year-old foliage continues and tipburn of current needles is common but not consistently present. Annual

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1 Spaulding, Perley. The present status of the white pine blights. U.S. Dept. Agr., B.P.I. Circ. 35. 12 pp. 1909. (pp. 5-9).

2 Deuber, Carl G. White pine blight. Natl. Shade Tree Conf. Proc. 7: 97-100. 1931.

growth of the central leader of affected trees may vary from 0.5 to 6 inches compared to 20 or 30 inches of growth produced by healthy trees nearby. Bark of the upper trunk and branches is an olive-green to yellow-green color and slightly wrinkled or shriveled. Raised pitch pockets or blisters are usually found on the lower stem. Unlike the resinosis disease of white and red pines, however, there is no external resin flow.

Stunting of roots in advanced stages of chlorotic dwarf is pronounced. Fibrous roots are sparse and most of those present occur in the upper 6 inches of soil. The lack of roots is not due to decay but seems to be caused by some condition inhibiting their growth and development.

Although several theories have been expounded on the cause of this disease, the agency responsible remains unknown. The disease has been attributed most frequently to drought, natural competition and suppresion, nutrient deficiencies, and poor planting practices resulting in "balling" of roots. Other theories have concerned a possible physiological-genetical complex, fungous root rot, feeding by sucking insects, lack of mycorrhizae, and a virus. The occurrence of chlorotic dwarf on small trees of recently established plantations precludes the possibility that it is caused by competition and suppression. Also, symptoms are different, suppression resulting in weak, spindly growth. The progressive annual intensification of dwarfing over a period of years regardless of fluctuating soil moisture, the indiscriminate distribution of diseased trees in plantations, and the occurrence in mixed plantings of chlorotic dwarf on white pine only, would seem to discount the drought and nutrient deficiency theories. Observations on roots of affected trees have not supported the theory of poor planting or root rot.

Experiments are in progress to determine if chlorotic dwarf is infectious. Isolation attempts and histological studies over a period of several years have not as yet revealed any organism consistently associated with this trouble. Organisms most commonly obtained in isolation attempts have been saprophytic types. A limited attempt has been made to induce recovery of diseased trees by transplanting a few of them to more fertile soil and by watering. No evidence of recovery has appeared during the two seasons these attempts have been in progress. Etiological experiments undertaken recently have concerned the virus and some physiological possibilities.

Any information available on this disease or similar troubles will be gratefully received. Reports on occurrence of the disease in plantations and natural white pine stands, damage, source of plantation stock, and observed cases of recovery especially would be appreciated.

DIVISION OF FOREST PATHOLOGY, BUREAU OF PLANT INDUSTRY, SOILS AND AGRICULTURAL ENGINEERING, AGRICULTURAL RESEARCH ADMINISTRATION, UNITED STATES DEPARTMENT OF AGRICULTURE, COLUMBUS, OHIO

BACTERIAL LEAF BLIGHT AND TOP ROT OF CORN IN NEBRASKA AND KANSAS

Stuart M. Pady

During the week ending August 12, a survey was made of corn diseases in 7 counties in northeastern Kansas and in 8 southeastern counties in Nebraska.

In Kansas, the Bacterial Leaf Blight and Top Rot reported from this area last year was found to be scattered over this part of the State. The cause of this disease has not been determined. Dr. A. G. Johnson, to whom material has been sent, has indicated that the organism is not Bacterium holci and is probably new. The Leaf Spots are narrow, tan-colored in the center, with a narrow reddish-brown margin. The spots are most numerous at the base of the blade. The middle leaves are more heavily attacked than the upper or lower leaves. The Top Rot condition appears when the plants are about half-grown; leafing-out is checked, with the upper leaves turning brown and the stalk rotting.

The Leaf Blight was found in 24 of the 57 fields examined in Kansas. In 13 fields infection was only a trace with a few plants lightly infected. Such fields were found in Douglas, Shawnee, Nemaha, Brown, Doniphan, and Atchison Counties. Higher percentages of infection recorded in individual fields were 20% in a Douglas County field; 15% in Pottawatomie County; 4 fields in Nemaha County with 1, 3, 2, and 20% respectively; 3% in Brown; 2% in Doniphan; and 1% in Atchison County. In only 3 of these fields could the damage be considered to be severe.

Top Rot was found in 7 fields, in Shawnee, Nemaha, Brown, and Doniphan Counties, in practically every case in fields where the Leaf Blight was particularly heavy.

The heaviest infections observed in Kansas were in Nemaha County. Last year this disease was severe on Jewett hybrids at Sabetha. This year the disease is not quite so severe, although the same strains are being grown in the same field where the disease was heaviest last year. Differences in susceptibility were observed, also, in 3 of the Jewett hybrid lines, one of which showed 20% infection, one a trace, and the other no infection.

In Nebraska, Bacterial Leaf Blight was found in 20 of the 34 fields examined; the affected fields observed were located in Richardson, Gage, Lancaster, Cass, Otoe, and Nemaha Counties. As in Kansas, most (11) affected fields showed only a trace of infection on only a few plants, but in several fields the amount was greater; 5% infection was observed in Richardson and Cass Counties, 10% in Nemaha and Otoe Counties, 15% in Cass County. Top Rot was most likely to be found in such heavily infected fields. It was observed in 6 fields, located in Lancaster, Cass, Otoe, Nemaha, and Richardson Counties; in each case damage was confined to occasional scattered plants.

Dr. J. E. Livingston states that this disease has also been reported from other points in this area, which indicates a scattered distribution over the entire southeastern part of Nebraska.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

BACTERIAL WILT OF CORN IN ILLINOIS AND MISSOURI AND OTHER BACTERIAL DISEASES REPORTED ON CORN

Reports are of Emergency Plant Disease Prevention Project surveys.

BACTERIAL WILT ON RESISTANT SWEET CORN HYBRIDS IN ILLINOIS: Reports from the East St. Louis district were to the effect that sweet corn usually fairly resistant to Stewart's disease was proving susceptible. Although early plantings were already harvested, growers reported these as having been wilted. In one plot of Golden Cross Bantam, the leaves were severely infected and many ears reduced to nubbins. A loss of 75% was estimated. Ioana was reported as infected but the only bacterial wilt observed was on leaves of plants from seed that the grower had saved from Ioana grown last year. It may be that some of the growers practise saving seed from hybrids grown the previous season. Conceivably, resistance to Bacterium stewartii might thus be broken down. Silver Cross Bantam in one field of several acres was 80 to 90% infected, severity light to moderate, and the loss negligible. Traces of Stewart's disease were also observed on Hybrid Evergreen. The above observations were made in Madison County. -- J. S. Tidd, week ending August 19.

BACTERIAL WILT ON CORN AND SWEET CORN IN MISSOURI: Bacterial Wilt appeared to be generally prevalent in most sweet corn plantings observed in St. Louis County during the week ending July 29, but had caused very little damage up to that time.

Surveys in corn fields were made in the northwestern and northeastern sections of the State, August 7 to 19. The 2 sections were in direct contrast as regards drought damage. The northwestern counties in general have had ample rainfall. In the northeastern section the effects of a prolonged drought were noticeable. Bacterial Wilt appeared to be prevalent in both sections. The elongated, necrotic streaks in the foliage, characteristic of wilt infection, were found in the majority of plantings. Representative collections from most of the fields visited revealed, upon microscopic examination, the presence of bacteria in the bundles of affected tissue. The degree of infection varied greatly in different fields, ranging from instances in which there were relatively few lesions on the lower leaves of scattered plants to instances in which practically all plants showed foliage infection, with as many as 50% of the leaves infected and much leaf area destroyed. In a number of fields in northeastern Missouri, plants were noted with all the foliage prematurely dead, the stalks still green. Owing to the generally dry conditions that have prevailed in this area, it is difficult to determine to what extent Bacterial Wilt may have been responsible for this condition. In no instance was there any evidence that the wilt infection had progressed into the stalk. In those plantings in which much leaf area has been destroyed there is likely to be some reduction in yield, but on the whole, indications point toward relatively little damage despite the prevalence of the disease. -- T. W. Bretz.

OTHER BACTERIAL DISEASES REPORTED ON CORN: A single river-bottom field was examined in northwestern MISSOURI in which a few scattered plants had

broken over as a result of a soft rot at the lower nodes, characteristic of infection by Phytomonas dissolvens, according to T. W. Bretz (Aug. 7-19).

Stuart M. Pady reports that Holcus Bacterial Spot (Bacterium [Pseudomonas] holci) was found in KANSAS, in small amounts in 7 fields in Jefferson, Brown, Atchison, Leavenworth, and Jackson Counties (week ending Aug. 12).

OTHER REPORTS ON CORN DISEASES

Reports are of Emergency Plant Disease Prevention Project surveys.

HELMINTHOSPORIUM LEAF BLIGHT ON CORN AND SWEET CORN IN MINNESOTA: During the week ending August 18, corn was examined in east-central and southeastern Minnesota, the writer being accompanied by J. J. Christensen of the University of Minnesota. During part of the time, W. Bever of the Division of Cereal Crops and Diseases, and M. B. Moore of the University of Minnesota, cooperated in the survey.

The most severe outbreaks of Helminthosporium turcicum yet found in Minnesota occurred in a few fields in Washington County, near Forest Lake. The infected fields were adjacent, 2 of them being planted to a commercial hybrid, 1 to flint corn, and the 4th to Golden Bantam sweet corn. Apart from these few fields, no severe infection of H. turcicum has been found. Infection was first observed by the farmer in one field of hybrid corn, beginning near a windbreak on the edge of the farmyard. From there the disease spread rapidly throughout this field and to the adjacent fields. Most leaves in the first field had been killed and the disease was developing rapidly in the other fields. The first field was a complete loss while the other fields were injured not less than 50%. The same hybrid corn had been grown by the farmer in previous years, without any indication of especial susceptibility to H. turcicum.

At the Waseca Experiment Station of the University of Minnesota, over 200 commercial hybrids were examined. No heavy infection of H. turcicum was found on any variety; indeed lesions produced by this fungus were uncommon. Many fields of hybrid and sweet corn were examined in southeastern Minnesota without finding any case of damage from H. turcicum. -- Ian W. Tervet.

REPORTS INDICATE CORN SMUT LESS PREVALENT THAN USUAL IN CENTRAL STATES: Smut (Ustilago maydis) was found in practically every field inspected in northeastern KANSAS and appeared to be particularly abundant on the sucker ears. In most fields the amount of infection varied from a trace to 1%. In one seed-producing field in Nemaha County 25% infection was observed on the detasselled plants, the process apparently favoring heavy infection. Smut was present also in every field observed in southeastern NEBRASKA but was not causing very much damage so far. -- Stuart M. Pady, week ending August 12.

Very little Smut could be found in fields examined in east-central and southeastern MINNESOTA during the week ending August 18. J. J. Christensen states that he had never seen such a light infection in southern Minnesota. In one field that had suffered slight hail injury, about 5% infection was seen; the average in other fields was a trace. -- Ian W. Tervet.

Smut was present in all fields observed during a preliminary survey (week ending Aug. 5) in central and north-central MISSOURI, but the percentage of plants affected was very low (trace) in most instances, and only one field was observed in which 3% of the plants showed smut boils at the nodes or on the developing ears. In northwestern and northeastern Missouri (Aug. 7-19), Smut appeared to be much less prevalent than last season. In most fields only occasional infected plants were observed. A few fields showed from 2 to 3% of the plants with smut boils and one field was observed in which 8% smut infection occurred. -- T. W. Bretz.

A trace of Smut was found in one field near Cary in the Delta region of MISSISSIPPI; this is the first Smut observed by the writer this year. -- Douglas C. Bain, Aug. 8-12.

LEAF SPOTTING AND SHEATH SPOT IN MISSOURI: A preliminary survey of field corn was made in central and north-central Missouri during the week ending August 5. Leaf Spotting, the characteristics of which conform closely with those described as a heritable chlorophyll deficiency, appears to be unusually prevalent and pronounced in many fields this season. Samples of affected leaves have been submitted for examination to check for the possible presence of a pathogenic organism, however. Purple Sheath Spot was prevalent in all fields. All fields showed few to many leaves in which irregular, necrotic areas occur, on the surfaces of which an Alternaria sp. was sporulating.

Purple Sheath Spot was present in varying amounts in all fields examined in northwestern and northeastern Missouri during the period August 7 to 19, and in many fields from few to many plants showed Leaf Spotting characteristic of heritable chlorophyll deficiency. -- T. W. Bretz.

REPORTS ON VARIOUS CORN DISEASES AND INJURIES: Douglas C. Bain observed a rather heavy attack of Leaf Blight (Helminthosporium turcicum) in one field near the Homochitto River in Adams County, MISSISSIPPI, and a small amount of Leaf Spot (Diplodia macrospora) in the same field. (Aug. 8-12).

Negligible amounts of Rust (Puccinia sorghi) were found in several of the fields examined by Ian W. Tervet (week ending Aug. 18) in east-central and southeastern MINNESOTA, and in most fields observed by T. W. Bretz in northeastern and northwestern MISSOURI (Aug. 7-19). Stuart M. Pady (week ending Aug. 12) reports that Rust was present in every field examined in northeastern KANSAS and southeastern NEBRASKA but was not causing very much damage so far, although lower leaves in occasional Kansas fields were heavily rusted.

Ian W. Tervet reports that while some damage from drought has occurred in the lighter soils in parts of southeastern MINNESOTA, the great majority of fields have sufficient moisture, and evidence of the excessive moisture during the earlier part of the growing season can still be seen on the heavier soils. Corn appears to be making excellent progress, but too many fields have been planted late and there is little chance of some of them reaching maturity.

T. W. Bretz reports that many fields examined in central and north-central MISSOURI (week ending Aug. 5) showed rather extensive firing of the lower leaves. In the northeastern section of the State (Aug. 7-19), the effects of a prolonged drought were noticeable and most plantings of corn had been damaged, except in the Mississippi River bottoms.

According to Stuart M. Pady the prospects in northeastern KANSAS for a good corn crop were excellent although rain was needed in some areas and recent hot weather was beginning to cause some injury.

REPORTS ON DISEASES OF SMALL GRAINS

Reports are of Emergency Plant Disease Prevention Project Surveys.

DISEASES OBSERVED ON BARLEY AND OATS IN VERMONT: On Barley, a very light scattered infection of Stem Rust (Puccinia graminis) on less than 1% of the plants was found in Rutland. Leaf Rust (P. anomala) was found in light infections on about 40% of the plants in East Barre. Covered smut (Ustilago hordei) was also found in the East Barre field; prevalence ranged from 2 to 3%.

On Oats, Stem Rust was seen in Manchester, South Randolph, Williamstown, and Rutland. Except for the Manchester field where prevalence was 100% and severity moderate to heavy, prevalence ranged from 5 to 20% and severity from light to moderate.

Crown Rust (P. coronata) was 100% prevalent in moderate to heavy infections in 9 widely scattered fields examined throught the State.

Covered Smut (Ustilago levis) [U. kolleri] was found in the following towns: a trace in Bellows Falls, 10% infection in Manchester Center, 1 to 2% in Rutland and Williamstown.

From a trace to 1% Loose Smut (U. avenae) was found in one field in Rutland. -- Robert C. Cassell, July 31-Aug. 4.

STEM RUST AND SCAB ON WHEAT IN SOUTH DAKOTA: In northeastern and north-central South Dakota loss from Stem Rust has been slight, since resistant varieties (Rival, Pilot, and Thatcher) constitute the bulk of the crop. While Rival was attacked by Stem Rust to a greater extent than hitherto, there was little evidence to indicate that the variety had suffered more than nominal loss. Development on Rival late in the season was insufficient to cause injury to the grain. A certain amount of Ceres is grown, especially towards the Missouri River. This variety was injured severely by Stem Rust, many fields yielding not over 10 bushels compared with about 20 for Rival or other resistant wheats.

In southwestern South Dakota, where the predominant varieties are Ceres and Marquis, loss from Stem Rust was heavy. Fields of less than 10 bushels were not uncommon, and in the Black Hills region, some of the late fields may not be harvested. Earlier estimates of not less than 50% from Rust in the Black Hills are substantially correct.

Traces of Scab (Gibberella zeae) were found as far west as Faulkston, Faulk County. However, in the eastern part of the State, a heavy epidemic of Scab occurred. -- Ian W. Tervet, week ending August 7.

SMUTS AND STEM RUST ON WHEAT AND BARLEY IN MONTANA: During the period July 24 to 29 the Bitter Root and Flathead Valleys in western Montana were visited with Dr. M. M. Afanasiev of the Montana Agricultural Experiment Station. Dwarf Bunt (Tilletia tritici [T. caries] special race) was found in several Wheat fields northwest of Kalispell, but only in small amounts.

Most of the growers in this area are now planting resistant varieties. Near Somers one field was seen with 50% loss from Smooth-Spored Bunt (T. levis) [T. foetida].

On August 1, in company with Dr. R. H. Bamberg, a number of winter wheat fields in the Spring Hill district of Gallatin County were examined. Dwarf Bunt was very bad, causing up to 50% loss in some fields. In addition to the Dwarf Bunt, the ordinary Rough-Spored Bunt [T. caries] and Smooth-Spored Bunt were very destructive. Some fields were very badly diseased with two or more of these covered smuts. In one very badly attacked field examined the loss was at least 80%, about evenly divided between Dwarf and High Bunt.

A survey of wheat diseases in eastern Montana was made August 2 to 6. Stem Rust was common but not highly destructive on spring wheat in the areas surveyed. Losses will be only moderate in the worst areas seen, which were along the eastern edge of the State. Westward from these eastern border counties infection became progressively lighter until in the vicinity of Hardin in the south and Malta in the north only an occasional rusted plant could be found. Tilletia caries was found causing from 5 to 15% damage in one area near Lindsay, and Loose Smut (Ustilago tritici) was prevalent in all fields examined with an average loss of probably 2%. In this eastern area, as in central Montana, Bunt seemed confined to certain districts, while Loose Smut was more widespread.

Barley Loose Smut (U. nuda) and Covered Smut were noted briefly in eastern Montana. -- C. M. Slagg

DISEASES ON WHEAT IN IDAHO: Traces of Powdery Mildew (Erysiphe graminis), Leaf Rust (Puccinia rubigo-vera var. tritici), and Loose Smut were noted on wheat near Mountain Home in southwestern Idaho (July 18-22). In eastern Idaho (July 23-29) Black Chaff [Xanthomonas translucens f. sp. undulosa] was noted on irrigated wheat near Shelley, and Leaf Rust was observed on dry-land wheat east of Idaho Falls. Damage was slight in both cases, although Black Chaff was rather prevalent in a few fields and the probable extent of damage was difficult to forecast. -- Earle C. Blodgett

DISEASES ON WHEAT AND BARLEY IN WASHINGTON AND OREGON: A visit was made July 24-31 to Franklin, Benton, and Walla Counties in Southern Washington. Harvest of Wheat was in progress in Franklin County. No reduction of crop due to disease was apparent in a cursory examination of fields from Connell south to Pasco. Control of Bunt [type not specified] had been practically perfect in the fields observed.

In Walla Walla County, from Walla Walla toward Coppei Mountain, wheat leaves were covered with Powdery Mildew. No plant was noted free from infection. A rain followed by warm weather had favored the development of the disease. Only the heads in lower, later-maturing parts of the fields were obviously not well-filled on account of the Mildew. On the whole the rain probably did as much good to the crop as the disease did harm.

Barley in the upper fields toward the foot of Coppei Mountain was free from Powdery Mildew. Apparently at these levels the grain had matured sufficiently before the environment became favorable for the disease. Adjacent wheat fields were 100% infected. At lower levels, where barley was a little later in maturing, Mildew was apparent on every leaf.

In Wheat fields noted August 2 to 3 in the Milton-Freewater area of northern Umatilla County in Oregon, just across the State line from Walla Walla County, the leaves were well covered with Powdery Mildew. Infection had apparently occurred too late to interfere materially with the filling and maturation of the grain.

On August 4 to 5 a cursory survey of wheat fields was made westward along secondary highways between Pendleton, Hermiston, Heppner, Condon, and Moro. The crop as a whole appeared satisfactory; at some points better yields were being obtained than were expected earlier in the season. Most fields appeared free from Bunt [type not specified]. The most observed in any field was on the variety Golden 3 miles east of Condon. Sample counts in this field ranged from none to 4%, the average being approximately 1%.

North of Moro, a field of a Turkey type wheat showed poorly filled heads. Examination of the dry roots and crown indicated that a Foot Rot had been responsible for the loss in yield. Mr. M. M. Oveson at the Sherman Branch Station called my attention to 2 varieties in his nursery planting, Turkey C.I. 6251, and a Federation x Bunyip, that were materially reduced in yield because of Foot Rot.

In the Redmond-Bend area of central Oregon (Aug. 7-9), Covered Smut was observed on Barley near Powell Butte in Crook County. The percentage of infected heads was not high but the disease was well distributed. According to the grower the seed was treated when obtained from the dealer. -- Lytton W. Boyle

REPORTS ON FLAX DISEASES: Pasmo (Mycosphaerella linorum) and Rust (Melampsora lini) occur in all flax fields in northeastern SOUTH DAKOTA. Rust infection is variable; south and east of Watertown most fields were heavily attacked but west of Watertown somewhat less infection was found. Pasmo is common in all fields, and while the severity of the disease appears somewhat less than last year, heavy losses undoubtedly will occur.-- Ian W. Tervet, Aug. 1-7.

Rust was noted on flax in eastern MONTANA. -- C. M. Slagg, August 1-6.

Accompanied by Mr. E. G. Nelson of Oregon State College, a survey was made of flax in areas in western OREGON where Sclerotinia sclerotiorum had occurred and caused damage to the crop in previous years. Evidence of occurrence on flax this season was not found. Rust was prevalent but severe infection of the stems was not noted. This season's flax crop was generally poor. Plants were comparatively short and tonnage therefore low. In some instances the fiber crop will be cut for seed instead of being pulled. -- Lytton W. Boyle, August 16.

DISEASES OBSERVED ON SOYBEANS IN MISSOURI

T. W. Bretz

During the week ending July 29, soybeans were examined in east-central and southeastern Missouri. A general rain over this entire region on July 25 broke an extended period of drought which, in certain localities within the region, had caused serious damage to crops. Other localized areas had benefited from periodic light rains and the crops in these localities appeared to be in relatively good condition. As a result of the limited

rainfall during the preceding 6 to 8 weeks, disease of the aerial parts of plants in general had not developed to a damaging extent.

The Bacterial Leaf Spots were prevalent in all fields examined, but in general they were causing little damage. Infection was limited chiefly to the lower leaves, although in a few fields as much as 2/3 of the foliage was infected and some defoliation had occurred. Occasional scattered plants showing Mosaic (Virus) symptoms were noted in approximately 1/3 of the fields. In St. Louis County one field showed light "Frogeye" Leaf Spot (Cercospora sp.) infection, and in another field of very dense, rank growth, Downy Mildew (Peronospora manshurica) in the early stages of development was observed on the lower leaves. One field in New Madrid County was observed in which scattered plants had been killed or were dying, apparently as a result of Charcoal Rot (Sclerotium bataticola) infection.

During the week ending August 5, a survey was made in central and north-central Missouri. In general, soybean plantings were in good condition. The stand was excellent, vegetative growth had been vigorous, and the majority of the fields were showing good pod set.

Bacterial Blight (Phytomonas [Pseudomonas] glycinea) and Bacterial Pustule (Phytomonas [Xanthomonas] phaseoli var. sojense) were prevalent in all fields. Infection was limited primarily to the lowermost leaves in most instances, although in a number of fields at least 50% of the leaves were infected and some defoliation was occurring. On the basis of field examination, it appeared that the Bacterial Pustule disease was the more prevalent and serious of the two.

Downy Mildew was prevalent in most of the fields examined in Livingston and Grundy Counties, but it was not observed elsewhere. The infection was vigorous, with the lesions in the early stages of development, and in a few fields as much as 33% of the foliage was affected. Should environmental conditions favorable for the development of Downy Mildew continue, considerable damage may result from the disease in this area.

Mosaic-infected plants were found in 75% of the fields. In all instances only an occasional, scattered plant was diseased. Bud Blight (Tobacco-Ringspot Virus) was observed in 44% of the plantings. Except for one field in which an estimated 1% of the plants were diseased, only occasional infected plants could be found.

Two fields were observed in which a few scattered plants had been killed or were dying, showing Charcoal Rot infection of the root system and basal stem portion. In one field a few scattered plants had been girdled near the soil level. A fungus, tentatively identified as Diaporthe sojae, was fruiting on the killed stem tissues.

From August 7 to 19, surveys were made into the northwestern and northeastern sections of the State, with corn and soybeans being the principal crops examined. The 2 sections of the State visited were in direct contrast in regard to drought damage. The northwestern counties in general have had ample rainfall and the crops have made excellent growth. In the northeastern section, the effects of a prolonged drought were noticeable and most plantings of soybeans have been damaged, except in the Mississippi River bottoms.

Bacterial Blight and Bacterial Pustule were prevalent in the majority of plantings. Only one field was observed in which there was no evidence of bacterial leaf spotting. On the basis of field examination, the Bacterial Pustule disease appeared to be the most prevalent, although in a number of

fields Bacterial Blight seemed to predominate. The degree of leaf spotting varied from instances in which 100% of the foliage was infected and some defoliation was occurring to instances in which only the lower leaves showed a few lesions.

Downy Mildew infection was noted in slightly more than 50% of the fields. The heaviest and most vigorous infection was observed in the Mississippi River bottoms, where a number of fields showed 2/3 of the foliage affected and many of the lesions becoming necrotic. It seems quite possible that in these fields some damage from the disease is inevitable.

Bud Blight-infected plants were found in 75% of the plantings. In the majority of affected fields (50%), only an occasional diseased plant could be found. In the remaining 25% of the affected fields, the percentage of diseased plants ranged from 10 to 33%. All of these fields showing a high percentage of infection were located in the northeastern counties and in the Mississippi River bottoms, and much pod-spotting was in evidence.

Mosaic-infected plants were found in 50% of the fields. However, in every instance only an occasional diseased plant could be found.

Three fields in northeastern Missouri were observed in which there was a light leaf spotting, principally of the lower leaves, apparently due to a species of Alternaria.

In one field a few scattered plants had been killed as a result of Charcoal Rot infection.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

OTHER REPORTS ON DISEASES OF SOYBEAN

Reports are of Emergency Plant Disease Prevention Project surveys.

SOYBEAN DISEASES IN MISSISSIPPI AND LOUISIANA: Bacterial Pustule and Bacterial Blight were found in varying amounts throughout the Delta area of Mississippi visited August 8-12. Considerable damage was caused by Southern Blight (Sclerotium rolfsii) in one field near Cary.

In southern and southwestern Louisiana, August 1-8, Bacterial Pustule and Frogeye Spot (Cercospora daizu) [C. sojina] were found to be the most common and widespread diseases; Frogeye was considered to be the more serious.

In one field near Plaquemine in Iberville Parish a Leaf Spot occurring in traces was associated with a Colletotrichum that does not fit the description of C. glycines. Another fungus that was also found to be associated constantly with this Leaf Spot has since been determined by Dr. Lindsay S. Olive as Myrothecium roridum Tode; the same fungus was found on the same type of spot observed on cowpea near Franklin, and also had been noted associated with a leaf spot of cotton in Mississippi. The fungus does not appear to have been reported previously on soybean or cowpea.

The leaf disease temporarily identified as Wildfire (Phytomonas [Pseudomonas] tabaci) was found in trace amounts near Plaquemine. Light infection by Downy Mildew was observed in fields near Patterson and Franklin.

From August 14 to 19 surveys were made in the New Orleans and Baton Rouge areas of Louisiana. A curved-spore form of Colletotrichum (? C. glycines), differing from the straight-spore form found on leaves as reported above, was found on dead and dying stems in a field near Baywood. Diaporthe sojae was common on this material. -- Douglas C. Bain.

SOYBEAN DISEASES IN MINNESOTA: During the week ending August 18 soybeans were examined in east-central and southeastern Minnesota, the writer being accompanied by J. J. Christensen of the University of Minnesota. During part of the time, Howard Johnson and W. B. Allington of the Division of Forage Crops and Diseases and M. B. Moore of the University of Minnesota cooperated in the survey.

Soybeans are being very little injured by disease. In some fields, some Bacterial Blight and Bacterial Pustule occur. Bud Blight was found in variety test plots at University Farm, St. Paul and in some fields in southeastern Minnesota. However, very few infected plants were found in any field and loss from this disease is negligible. A light infection of Mosaic also occurs in some fields. Soybeans in one field in Scott County were severely injured by a Root Rot, and one other field in Goodhue County was moderately injured by the same disease. Isolations are being made from the infected roots. -- Ian W. Tervet.

BACTERIAL PUSTULE IN KANSAS: During the week ending August 12, 16 soybean fields in 10 counties in northeastern Kansas were examined for diseases. The fields varied greatly in maturity, from some not yet flowering to others with well-developed pods. Bacterial Pustule was the only disease observed and it was found in all but 2 of the fields, ranging from a trace on scattered plants to fairly heavy infection on all plants. -- Stuart M. Pady.

REPORTS ON DISEASES OF OTHER LEGUMINOUS FORAGE AND FIELD CROPS

Reports are of Emergency Plant Disease Prevention Project surveys.

DISEASES REPORTED ON ALFALFA: Light to moderate infections by the Leaf Spots caused by Pleospora trifolii and Pseudopeziza medicaginis were observed in a field in Epping, NEW HAMPSHIRE (Aug. 9-10). Prevalence of the former was about 20%, of the latter about 10%. -- Robert C. Cassell.

Boron Deficiency was evident in a 7-acre second-growth field in DeKalb County, INDIANA. Yellowing of the terminal leaves was prominent as well as other typical symptoms. -- J. S. Tidd, week ending Aug. 12.

Pseudopeziza medicaginis has been very destructive on alfalfa in southeastern MINNESOTA, the second crop suffering heavily. Loss from Hopperburn also has been severe. R. E. Hodgson, Superintendent of the Southeast Experiment Station, Waseca, reports many complaints from farmers on condition of second-cutting alfalfa, the injury being due to Hopperburn and Pseudopeziza. Bacterial Wilt (Phytomonas insidiosa) [Corynebacterium insidiosum] was found in a few fields but no case of serious loss was observed. -- Ian W. Tervet, week ending August 18.

A number of plantings of alfalfa were examined in central and north-central MISSOURI during the week ending August 5. Pseudopeziza Leaf Spot was prevalent in each, but was doing only minor damage. In one field, Rust (Uromyces striatus var. medicaginis) was causing considerable damage to the foliage in localized areas. In another field approximately 5% of the stand had died out in limited, scattered areas. Plants bordering these areas showed the mycelium and sclerotia of the Crown Rot organism (Sclerotinia trifoliorum) affecting the crowns. -- T. W. Bretz.

Pseudopeziza Leaf Spot was found in most fields in eastern SOUTH DAKOTA, but no case of severe loss was observed. In the vicinity of Brookings, Yellows, resulting from leafhopper attack, was seen in some fields but the injury was slight in all cases. -- Ian W. Tervet, week ending August 7.

Downy Mildew (Peronospora trifoliorum) and Yellow Leaf Blotch (Pyrenopeziza medicaginis) were observed in central MONTANA during the week ending July 22. During a survey in western Montana the following week, several fields northeast of Hamilton, Ravalli County, in which the first cutting had been very severely damaged by Downy Mildew were examined to determine if the disease were present in the second crop. In all cases Downy Mildew was found still causing severe damage and stunting, but it is not believed the loss will be as great as in the first cutting. A number of alfalfa fields on the western slopes of the Bitter Root Valley, which had shown dwarfing and top reddening symptoms in the first cutting, diagnosed in an earlier report as due to Boron Deficiency, were reexamined. Symptoms on the second crop, although present, were much less evident than on the first crop in early summer. -- C. M. Slagg.

In southwestern IDAHO (July 18-22), Witches'-Broom (Virus) was observed in several new localities in Elmore County. Infection varied from a trace to about 25%. Bacterial Wilt was severe in several fields in Indian Cove. In eastern Idaho, in Bonneville, Jefferson, Madison, Fremont, Teton, and Butte Counties (July 23-29), Downy Mildew was both observed and reported to be causing appreciable loss in yield and quality of first-cutting hay. Leaf Spot and Yellow Leaf Blotch were very prevalent. -- Earle C. Blodgett.

Mosaic (Virus) was very prevalent near Alfalfa in the Redmond-Bend area of north-central OREGON. It was general enough in certain plantings to reduce tonnage significantly. -- Lytton W. Boyle, August 7-9.

In southern WASHINGTON, certain fields in the Walla Walla area showed reduced stands and the poorer plants showed symptoms of Bacterial Wilt. Where information was obtained, such fields were from 4 to 5 years old. Dr. J. D. Menzies pointed out Witches'-Broom occurring in the area of Prosser, and it was also noted in a small field about 2 miles west of Pasco. It was not found in other plantings in the nearby area. Leaf Spot was generally prevalent but no severe infection was noted. -- Lytton W. Boyle, July 24 - 31.

DISEASES ON RED CLOVER: In southeastern MINNESOTA, heavy leaf and stem infections have severely injured most red clover fields. The most severely injured field was estimated to have suffered a loss of 25%. It is probable that for all fields examined an average loss of 10% has occurred. The principal diseases found were Northern Anthracnose (Kabatiella caulivora), Rust (Uromyces fallens), Bacterial Leaf Spot (Phytomonas trifoliorum) [Pseudomonas syringae], and Powdery Mildew (Erysiphe polygoni). The relative importance of these diseases varied somewhat in different fields, but Northern Anthracnose appeared to be most important, being found in every field as well as on roadsides. -- Ian W. Tervet, week ending August 18.

All fields observed in central and north-central MISSOURI (week ending Aug. 5) were heavily infected with Powdery Mildew, and Cercospora Leaf Spot (C. zebrina) was prevalent but causing little damage. -- T. [illegible] Bretz

Red clover plantings in the Milton-Freewater (Aug. 2-3) area of northern OREGON were well covered with Powdery Mildew. Near Alfalfa in the Redmond-Bend area (Aug. 7-9) Mosaic (Virus) was very prevalent, enough so as to reduce tonnage in some percentage. -- Lytton W. Boyle.

PEANUT DISEASES IN GEORGIA: Mr. James H. Hunter from the U. S. Pecan and Peanut Laboratory in Albany accompanied the writer on a survey of these crops in the Albany area on July 27 and 28. In general, stands of peanuts in this area are rather poor. The section north of Albany has been dry, while the area to the south has had sufficient moisture. Cercospora Leaf Spot (C. arachidicola and C. personata) was found to be more severe in the area south of Albany than in the dry section to the north. In the northern area, infections were found to be general but light, while in the southern section moderate to heavy infections were found. Quite a few growers have been successful in controlling the disease with sulfur and sulfur-copper sulfate dusts.

Southern Blight (Sclerotium rolfsii), as with Leaf Spot, was much more severe in the Camilla and Pelham sections south of Albany than in the area to the north. In the southern section an average of about 4% of the plants had been killed by the disease. A considerably greater percentage was found to be mildly infected and no doubt additional losses will be incurred as the season progresses. -- G. M. Stone

DISEASES REPORTED ON COTTON, TOBACCO, AND SUGAR BEET

Reports are of Emergency Plant Disease Prevention Project surveys.

COTTON DISEASES IN MISSISSIPPI: From August 8 to 12 a hasty trip was made to the Delta area via Natchez and Vicksburg.

Frosty Mildew (Ramularia areola) was noted in trace amounts near Natchez. This disease apparently does no damage to cotton leaves.

Rhizoctonia Leaf Spot(R. solani, see Phytopath. 34: 599-602) was found at Port Gibson and near the Homochitto River in Adams County. It was rather common at the latter place but the damage caused was apparently not of economic importance. Rudimentary basidial mats were found on one leaf. Apparently this is the first time this disease has been reported in Mississippi.

Potassium and Magnesium Deficiencies were observed in many fields; however, the condition was not so serious as was observed in the Prairie Parishes of southwestern Louisiana last week (see below). Leaf Spots (Cercospora gossypina and Alternaria sp.) were found to be rather common in the "Rust" areas.

In one small field near Port Gibson, fully 40% of the plants were in a chlorotic wilting condition unlike the symptoms of drought wilt. Internal and external symptoms strongly resembled those described for Verticillium Wilt caused by V. albo-atrum. Cultures have been made. What appeared to be this disease was also found near and at Leland.

A fungus associated with a Leaf Spot occuring in trace amounts near Natchez has been determined by Dr. Lindsay S. Olive as Myrothecium roridum Tode. The same fungus has been found on soybean and cowpea in Louisiana (see report on soybean above). -- Douglas C. Bain

COTTON DISEASES IN LOUISIANA: In the southwestern Parishes, the cotton situation appears to be rather serious. Two trips were made to this section during the period August 1 to 8. Dr. D. C. Neal accompanied the writer on the second trip.

The main trouble apparently is due to Potassium and possibly also Magnesium Deficiency. There is hardly a cotton field in this area that does not show symptoms of deficiency and even large patches of dead plants. In several fields observed all of the plants were dead. Undoubtedly this condition will lower the yield considerably in this area.

Fusarium wilt (F. [oxysporum f.] vasinfectum) was found to be abundant in some fields and rather scarce in others. Leaf Spots, especially that caused by Cercospora gossypina, were very common and severe throughout the area. Ascochyta gossypina, found for the first time in the State, and Alternaria sp. and Phyllosticta sp. were other fairly common leaf-spotting fungi. Only a trace of Angular Leaf Spot (Bacterium [Xanthomonas] malvacearum) was observed.

During the period August 14 to 19 surveys were conducted in the New Orleans and Baton Rouge areas. Rhizoctonia solani Leaf Spot was found in 2 fields near Baywood in East Baton Rouge Parish. Considerable damage due to Potassium Deficiency and Fusarium Wilt is evident in many fields in East Baton Rouge and East Feliciana Parishes. -- Douglas C. Bain

COTTON DISEASES IN MISSOURI: Angular Leaf Spot is prevalent on the foliage throughout the cotton-growing area of southeastern Missouri. In general it is light in intensity and is causing little damage, although in a few fields there appeared to be some defoliation of the lower leaves. Many fields showed plants in scattered areas with light to moderately intense "Rust" (Potassium Deficiency) symptoms. A few fields were observed in which Fusarium Wilt was affecting the plants in well-defined areas of varying size. In an occasional field an estimated 15% of the total field area is involved. -- T. W. Bretz, week ending July 29

ANTHRACNOSE ON TOBACCO IN VIRGINIA: Specimens of bright tobacco collected June 5 were sent to me by Dr. Wilbert A. Jenkins of the Chatham station. Typical colonies of the Anthracnose organism, Colletotrichum sp., developed in cultures. This is the first report of the occurrence of Anthracnose on tobacco in Virginia. -- E. A. Walker

TOBACCO DISEASES IN MARYLAND: Anthracnose was common and destructive on plants in seed beds in the area around Gambrills in Anne Arundel County June 2. The disease was noted on stems, leaves, and leaf veins and petioles. It was not destructive on tobacco observed in other areas. The copper-oil Downy Mildew spray did not control Anthracnose.

Infection was still prevalent in plant beds examined later near Gambrills (June 12 to 17) and some of the diseased plants were being planted out in the field. Weeds and plants growing in diseased tobacco beds were examined for natural anthracnose infections to discover possible carriers of the disease. Leaf spots on pokeweed and stem lesions on toadflax resembled anthracnose infections on tobacco.

Downy Mildew or Blue Mold (Peronospora tabacina) appeared only in a light form in southern Maryland counties, and the prolonged drought practically eliminated it in the southernmost area. In the northern counties, however, many growers were delayed 10 days or more in planting following a severe attack. Plant beds that were sprayed were not injured by the disease (June 1-10).

Mosaic (Virus) was observed in one plant bed near Gambrills (June 12-17) and on a visit to the field the disease was observed in plants that had been set the preceding week from the infected bed. Other fields in the vicinity were relatively free. -- E. A. Walker

TOBACCO DISEASES IN MISSOURI: Tobacco fields were observed in Platte County, in the vicinity of Weston,

The Virus Diseases, Streak and Mosaic, appeared to be the most important diseases in the plantings observed. All fields showed Streak-infected plants. Infection was most pronounced in the border areas of the fields and became progressively less evident toward the center of the fields. In the majority of cases, only 1 or 2 leaves on a plant were affected, although in a number of instances the plants were very seriously injured, with practically all foliage affected.

Mosaic was likewise noted in all plantings. In most fields only a few scattered plants were infected, but in one field fully 25% of the plants were diseased and in another planting it was impossible to find a mosaic-free plant. The infection apparently became widespread relatively late in the season, for only a few plants showed marked stunting and distortion.

In a number of plantings Frogeye (Cercospora nicotianae) lesions were numerous on the oldest, lowermost leaves of many plants. -- T. M. Bretz, August 7-19.

DISEASES REPORTED ON SUGAR BEETS: A trace of Leaf Spot (Phoma betae) was found in one field in Morgan County, COLORADO. -- E. M. Bodine, week ending July 31.

A Black Root Rot was severe in one field near Declo in southern IDAHO. This field had been cropped to beets for the last 10 years and considerable injury was noted last year. The cause of the rot was not determined. Decay began on the lower tap root and progressed upward causing a wilt and death of the plant. The affected tissue was very black and firm. Several reports have been received of similar injury. -- Earle C. Blodgett, July 18-22.

DISEASES REPORTED ON APPLE

These reports are of Emergency Plant Disease Prevention Project surveys, made by R. C. Cassell in New England (Aug. 8-11), M. R. Harris in Ohio (July 31-Aug. 5), Ian W. Tervet in South Dakota (week ending Aug. 7), C.M. Slagg in Montana (July 24-29).

REPORTS ON APPLE SCAB: In 4 poorly cared-for McIntosh orchards observed in southern MAINE, VERMONT, and NEW HAMPSHIRE, leaf infection by Scab (Venturia inaequalis) ranged from 75 to 100% and fruit infection from 60 to 100%. In a well-sprayed McIntosh orchard in Pittsfield, New Hampshire, only a trace was found on leaves and less than 1% light infection on the fruits, although on the edge of the orchard parts of trees not covered by the sprays showed 100% heavy infection of both fruit and leaves. Very light infection on leaves of Red Astrakhan was observed in Sanford, Maine.

Scab was spotted in distribution in several orchards examined in Ashtabula County in northeastern OHIO. Orchards were rather irregular in development in this region, and where sprays were applied at the right time Scab

occurred in very limited amounts, but in a few orchards where development coincided with a rainy period some spraying was poorly timed and the fruit showed some lesions.

Scab was reported to be present in epidemic form in the Spearfish section of the Black Hills region of SOUTH DAKOTA.

In the Orchard Homes area near Missoula in western MONTANA, leaves and fruits on all apple trees were found to be severely attacked by Scab. According to growers, the disease was difficult to control this year because of the rainy weather when sprays were applied.

OTHER DISEASES AND INJURIES OF APPLE: Black Rot (Physalospora obtusa) was observed in one orchard in West Wilton, NEW HAMPSHIRE, where the foliage showed about 50% light to moderate infection, while only a trace was noted in another orchard in the same locality. Moderate to heavy infection was observed on 100% of the leaves and a few fruits of Red Astrakhan in Sanford, MAINE. Cedar-Apple Rust (Gymnosporangium juniperi-virginianae) was also observed in West Wilton, where leaves of what appeared to be healthy were 100% heavily infected while McIntosh leaves showed less than 5% very light infection. None was observed on fruit of either variety.

Only a trace of Fireblight (Erwinia amylovora) was found in Ashtabula County, OHIO. The disease was not present in more than 90% of the trees in the several orchards inspected, and where found it was causing no loss. On the other hand, Fireblight as well as Scab is reported as occurring in epidemic form in the Spearfish section of the Black Hills in SOUTH DAKOTA

In the Lake shore region of OHIO, apple trees so far do not seem to be suffering from Drought but may do so before the crop is harvested. Early apples are smaller in size than they should be.

REPORTS ON VIRUS DISEASES AND SOME OBSCURE TROUBLES OF STONE FRUITS

Reports are of Emergency Plant Disease Prevention Project surveys.

X-DISEASE ON PEACH IN NORTHERN OHIO: In Lorain County an orchard was found in which many of the trees showed symptoms of the X-Disease or Yellow-Red Virosis (Virus) of peaches. In Ashtabula County, in several orchards, a few trees were found showing some symptoms of the X-Disease. In Lorain County, no chokecherry shrubs were found but there were wooded sections near the orchard which could very well be the source of diseased chokecherry plants. In Ashtabula County, a few chokecherry shrubs were found in a fence row along a road which showed the typical brilliantly colored leaves of plants having the X-Disease. -- M. R. Harris, July 31 - August 5.

VIRUS DISEASES ON SWEET CHERRY IN WESTERN MONTANA: A number of sweet cherry orchards on the eastern shore of Flathead Lake were examined with Dr. M. M. Afanasiev of the Montana Agricultural Experiment Station. Several trees in one large orchard showed a condition tentatively diagnosed as "Crinkle", with the leaves distorted and irregular in growth, with the edges rolled inward and upward. These trees were of the Bing variety and the grower stated that they bore little fruit, although normal trees

were very heavily loaded.

In a nearby orchard one heavily loaded tree showed deep ventral cracks or sutures [Deep Suture] exposing the pits on all the fruits.

Both of these conditions have been described by Reeves (Washington State Dept. Agr. Bul. 1, Mar. 1943) as probable viroses. -- C. M. Slagg, July 24-29.

SOME OBSCURE TROUBLES IN PRUNE ORCHARDS IN SOUTHERN WASHINGTON: The condition of prune orchards in Benton and Walla Walla Counties was of concern to growers and horticulturists.

Dr. J. D. Menzies called my attention to a necrosis in the tissue of fruit from trees about Prosser in Benton County. Correlated with this necrosis, gummosis was frequently evident on the cheeks of the fruit. This condition was also noted in the Walla Walla Valley where it was very prevalent but not so severe.

In orchards in Walla Walla County severe leaf rolling was evident on many trees. Growers and horticulturists in this area claim that this trouble is spreading. The cause was not apparent. The condition was evident in better kept orchards as well as in those obviously neglected. Fragmentary evidence indicates that earlier maturing varieties tend to be more severely affected by this trouble.

Reports were that many young trees had been lost in certain plantings. In one instance observed about 10% of the trees had been replaced, and others appeared in poor health.

Heart Rot was very prevalent in older orchards that had not been well cared for. -- Lytton W. Boyle, July 24-31.

OTHER REPORTS ON DISEASES OF STONE FRUITS

BROWN ROT ON PEACH IN NORTHERN OHIO: Observations were made in peach orchards in Sandusky, Ottawa, Erie, Lorain, Lake, and Ashtabula Counties on the amount of brown rot [Monilinia fructicola] showing at this time of the season (July 31 to August 5). Fruit of the early varieties was ripening. In every orchard seen brown rot had been present during the blossoming period. Old blighted flowers showing conidia could be found. The number of blighted blossoms ranged from a trace to as many as 35 per tree. Some varieties seem to be more susceptible than others. At the time of the inspection the Rochester variety was most severely damaged both in twigs and fruit. Where flowers had been killed the organism had frequently progressed down into the wood of the twig and girdled it. From one to several inches of new growth was blighted. Trees were found where brown rot this year and in past seasons had killed numerous small twigs. This seems to account for much of the dead wood present in many of the orchards inspected.

On fruit, brown rot is not commonly found. This is likely due to the extremely dry weather of the past month. Some growers are spraying for brown rot but many are not and hope the dry weather will see them through. -- M. R. Harris.

CORYNEUM ON PEACH IN MISSISSIPPI: The fungus reported as a species of Cercospora on peach twigs in Mississippi, in the June 1 issue, page 513,

was identified by Dr. D. A. Preston as the Coryneum [carpophilum] stage of Ascocarpa beijerinckii. -- Douglas C. Bain

DISEASES OBSERVED ON PRUNE AND PLUM IN CENTRAL CALIFORNIA: Prunes in the Santa Clara Valley and in Sonoma County are nearing the time for harvest. In both these areas they were surveyed for Brown Rot (Monilinia laxa and M. fructicola). As expected, very little was found. In Santa Clara County only a trace was noted, near Santa Clara. In Sonoma County Brown Rot was causing slight loss in one orchard. None was found in any other orchard examined. This Sonoma County orchard was the same one in which Brown Rot of the green fruit was reported in the spring (See PDR 28 (15): 510).

Rust (Tranzschelia pruni-spinosae) was found in the Healdsburg-Santa Rosa section of Sonoma County. It was causing considerable defoliation near the tops of prune trees in several orchards in the area south of Healdsburg. A few trees of a large yellow variety of plum were also rather heavily infected in the same area. According to the records available, this defoliation is occurring somewhat earlier this year than is usual for this area. No prune Rust was seen in the Santa Clara Valley at this time.

Armillaria Root Rot (A. mellea) was observed to be taking its usual toll of prune trees in the Santa Clara Valley. It was seen in a number of scattered orchards. Many growers are replacing dead trees with young prune trees which often go out at about the time they reach good bearing age. -- Horace L. Barnett, week ending August 19.

DISEASES REPORTED ON NUT TREES

Reports are of Emergency Plant Disease Prevention Project surveys.

PECAN DISEASES IN GEORGIA: Mr. James H. Hunter of the U. S. Pecan and Peanut Laboratory in Albany accompanied the writer on a survey in the Albany area on July 27 and 28.

Scab (Cladosporium effusum), according to Mr. Hunter, is much more severe on susceptible varieties this year than usual. Schley is the most commonly grown susceptible variety. Mr. Hunter stated that weather conditions early in the season were most favorable for Scab development and that because of excessive rains sprays at that time were somewhat ineffective. Dry weather has curbed the spread of the disease considerably and serious losses are not anticipated where groves are in a good growing condition; poorly kept groves are much harder hit.

Light infections of Powdery Mildew [Microsphaera alni] were found in several groves.

Rosette disease (Zinc Deficiency) was pronounced in several groves inspected. -- G. M. Stone.

ARMILLARIA ROOT ROT ON PERSIAN WALNUT IN CENTRAL CALIFORNIA: One interesting case of Armillaria Root Rot (A. mollea) was seen in an orchard of inter-planted pear and walnut trees, adjacent to a prune orchard that was suffering from Armillaria. In an area involving about a dozen trees each of walnut and pear, several of the walnut trees were dead or definitely

on the decline. Pear trees, even where growing between 2 diseased walnut trees, appeared to be free from any root trouble. Typical Armillaria mycelium was found on dead roots of these diseased or dead walnut trees. Since walnut is considered to be rather highly resistant to Armillaria attack, it is not clear whether this fungus alone was causing the death of these trees. The walnut trees had evidently been grafted very low, at about the ground level. Crown Rot (Phytophthora cactorum) was seen on walnut trees in scattered locations in the vicinity, but no definite symptoms of Crown Rot were found on the trees in this Armillaria-affected orchard. However, it is possible that Crown Rot was involved in the trouble at first, and was then followed by Armillaria. -- Horace L. Barnett, week ending August 19.

REPORTS ON DISEASES OF SMALL FRUITS

MUMMY DISEASE OF BLUEBERRY IN INDIANA: In conversation with the writer, Dr. C. T. Gregory, of Purdue University Agricultural Experiment Station, reported a 5% loss of blueberry fruits due to the Mummy Disease caused by Sclerotinia sp. This was in a 20-acre planting of hybrid blueberries in northern La Porte County. Dr. Gregory's observations were made on July 26. -- J. S. Tidd, Emergency Plant Disease Prevention Project.

DISEASES ON BRAMBLE FRUITS IN WISCONSIN: Six small samplings of cultivated Rubus for Virus Diseases were made in Door County during the period July 11 to 19. A summary of the counts made is given in the following tabulation:

Sample number	Kind of berry	Total number of plants examined	Plants affected with Virus No.	Plants affected with Virus %
1	Boysenberry	288	6	2.0
2	Red raspberry, Taylor variety	133	93	70.0
3	Red raspberry	374	3	0.8
4	Red raspberry	352	62	17.6
5	Black raspberry	370	8	2.2
6	Blackberry	392	0	0

(The variety was not known except in the case of sample number 2)

Sample 1 was made in a 4-acre field of boysenberries that had been rogued of Virus-affected plants last year. Of a sampling of 288 vines, 6 vines or 2% were found to show Mosaic. Three red raspberry fields were sampled. Mosaic occurred in from about 1 to 70% of the plants. One field of black raspberry showed an average of 2.2% Mosaic. None was found in the one blackberry field sampled.

Crowngall (Agrobacterium tumefaciens) was observed in one case on black raspberries.

Leaf Spot (Septoria rubi) was observed to a slight extent on both black and red raspberries and on blackberries. One unnamed variety of red raspberry appeared more susceptible than others, and some loss from drying up

of the fruit may result in this case.

Anthracnose (Elsinoë veneta) was observed in only slight amounts on cultivated black raspberries.

Cane Blight (Leptosphaeria coniothyrium) was found on a few fruiting canes in one planting of black raspberries.

Powdery Mildew (Sphaerotheca humuli) was observed by Dr. G. W. Keitt on plants from one location in Dane County. -- Edwin E. Honey, Emergency Plant Disease Prevention Project, and Duain Moore and Clair Calavan, University of Wisconsin.

REPORTS ON DISEASES OF SOME VEGETABLE CROPS

Reports are of the Emergency Plant Disease Prevention Project surveys.

BEAN DISEASES REPORTED IN COLORADO: According to Dr. W. J. Zaumeyer of the U. S. Bureau of Plant Industry, Soils, and Agricultural Engineering, bean Rust (Uromyces phaseoli var. typica) was first found in Weld County this year on July 15. Many fields of Pinto beans are now heavily infected in Weld County. Since early beans in general will be approximately a week late in maturing, and since Rust has appeared 2 weeks earlier than last year, high losses in yield may be expected in some fields. Undoubtedly the later beans will suffer more damage if weather conditions remain favorable for Rust infection.

Slight amounts of Red Node (Virus) and Mosaic (Virus) were found in some fields visited.

Bacterial Halo Blight (Pseudomonas medicaginis var. phaseolicola) was found to be widespread in wax and green bean varieties in Weld County. In many fields 100% of the plants were infected.

Common Bacterial Blight (Xanthomonas phaseoli) was found in many fields of Pinto beans. -- E. W. Bodine, Aug. 4.

REPORTS ON CARROT DISEASES: In NEW ENGLAND Leaf Blight (Cercospora carotae) was found to be 100% prevalent in 3 fields in Sanford and Scarboro in southern Maine. The disease was severe in 2 of the fields, 10% of the leaves having been killed so far. Attack was light to moderate in the other field. A trace of Alternaria Leaf Blight (A. carotae) was seen in one field in Scarboro. Less than 1% of Aster Yellows (Virus) was found in 3 fields in Scarboro.

Cercospora Blight was present in light to moderate infections on about 25% of the leaves in a small field in Pittsfield, New Hampshire. -- Robert C. Cassell, August 9-11.

Only a trace of Aster Yellows was present in each of the 4 fields surveyed in the Elba muck soil area in New York. Only a trace of Alternaria Blight was seen in one field, and no Cercospora Blight. In the Savannah area, of the 12 fields surveyed, 2 showed considerable injury by the Rootknot nematode (Heterodera marioni). Approximately 40% of the roots showed galls, and many of these already were misshapen or split so as to make them unfit for market. The total extent of the damage will be difficult to estimate until the field is actually pulled. In all 12 fields Aster Yellows was found, but in no case more than 1%. -- John Niederhauser, August 7-12.

Symptoms of Aster Yellows were found on Chantenay strains in DeKalb and Steuben Counties, INDIANA. -- J. S. Tidd, week ending Aug. 12.

Carrot fields inspected in Cook County, ILLINOIS, by Dr. M. B. Linn of the Illinois Agricultural Experiment Station and the writer during the week ending August 5, were showing symptoms of Aster Yellows, ranging from a trace of the plants infected to as high as 15% in one 8-acre planting of Danvers. In a 4-acre planting of the Nantes variety, it is interesting to note that the roots (carrots) of infected plants were tapering instead of being blunt-ended as is typical of this variety. Dr. Linn reported that he had observed infection in other carrot fields in Cook County ranging from a trace to as high as 70%. Traces of Cercospora and Alternaria causing Leaf Blight were also found in Cook County. -- J. S. Tidd.

In Benton County in southern WASHINGTON, losses of 75% were noted due to Root Rot in the seed crop. This appears to be the result of using roots infected with Stemphylium radicinum which was noted to be prevalent on roots grown in this area last season. The current crop does not appear healthy. From 10 to 20% of the plants show chlorosis and reddening of the tops and many such plants show an abnormal number of roots when pulled. The tap root will be covered with tufts of small roots. In the center of such tufts, fragments of a dead or injured root are evident. -- Lytton W. Boyle, July 24-31.

DISEASES ON SQUASH IN NEW HAMPSHIRE: Traces of Blossom Blight (Choanephora cucurbitarum), apparently causing negligible loss, were observed in 8 fields visited in Durham, Lee, Pittsfield, and Loudon. The disease occurred mostly on the male blossoms. Bacterial Wilt (Erwinia tracheiphila) was found in 5 of the 8 fields visited. In 3 fields there was only a trace, in one field less than 1%, in another between 1 and 2%, of the vines affected. Yellows (? caused by the Aster-Yellows Virus) occurred in traces only in 4 fields in Durham and Loudon. The greatest amount found was 4 affected plants in a 6-acre field in Loudon. Traces of Anthracnose (Colletotrichum) were found on the fruits in 4 of the 8 fields. In Loudon light infection by a Leaf Spot was observed on 30% to 40% of the leaves in 2 fields. It may be that the Leaf Spot was also caused by C. lagenarium; this is being determined. -- Robert C. Cassell, August 9-10.

REQUEST FOR SPECIMENS

J. J. Miller, Agricultural Assistant of the Division of Botany and Plant Pathology, Dominion of Canada Department of Agriculture, writes as follows:

"At the present time I am beginning a project on the Fusarium blight of soybeans and would like to obtain specimens attacked by this organism from some other localities for comparison. Since there is some controversy as to whether the Fusarium attacking cowpeas is identical with the soybean Fusarium, I would also like to get specimens of this. I am interested, as well, in making cultural comparisons of other pathogenic Fusaria, particularly those causing wilt diseases, and host material attacked by any of these would be useful.

"May I emphasize that I do not wish cultures of these organisms but

would prefer specimens of diseased host material from which I can make my own isolations. A small amount of material would be sufficient, say, about two inches of stem near the ground level."

Specimens should be sent to Mr. Miller at the Laboratory of Plant Pathology, Harrow, Ontario.